

PUB-NO: JP358107435A

DOCUMENT-IDENTIFIER: JP 58107435 A

TITLE: CARBON FIBER-REINFORCED METALLIC COMPOSITE MATERIAL

PUBN-DATE: June 27, 1983

INVENTOR-INFORMATION:

NAME

COUNTRY

AKUTAGAWA, KENICHI

MIYAZAKI, TOSHIKUNI

OTSU, HIDEO

US-CL-CURRENT: 428/611

INT-CL (IPC): C22C 1/09

ABSTRACT:

PURPOSE: To obtain the lightweight carbon fiber-reinforced composite material excellent in strength and resistance to heat and abrasion, by immersing a carbon fiber coated with substance such as boron having affinity to the base material of metal such as aluminum into the base material of metal.

CONSTITUTION: As a carbon fiber 11, a high-strength elastic fiber containing carbon as a constitutional element obtained by the thermal decomposition of an acryl fiber, the heat-treatment of fibered tar pitch, the vapor-phase growth of carbon or the like is used. As a metallic base material 100, lightweight metal, e.g. aluminum, an aluminum alloy, magnesium or a magnesium alloy, copper, a copper alloy or the like is used. Coating substance 12 having affinity to said metallic base material 100 is preferably boron, silicon carbide, titanium carbide, silicon nitride, titanium nitride or the like. The dense uniform coating film 12 of said substance is formed on the periphery of the carbon fiber 11 by a chemical vapor deposition process, and the foil of the base metal 100 is hot-pressed to obtain the carbon fiber-reinforced metallic composite material 1.

COPYRIGHT: (C)1983, JPO&Japio